-- IN THE CLAIMS --

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)
5. (canceled)
6. (canceled)
7. (canceled)
8. (canceled)
9. (canceled)
10. (canceled)
11. (canceled)
12. (canceled)
13. (canceled)
14. (canceled)

15. (original) Arrangement for optical evaluation of an object array (1) comprising a detector array (7),

a microlens array (2), which is disposed in front of the object array (1), as viewed in the direction of the detector array (7),

a field lends (3), which is disposed in front of the object array (1) as viewed in the direction of the detector array (7),

a light source (15), the radiation of which is coupled in by means of a beam splitter (8) between the field lens (3) and an objective (6), wherein the objective (6), together with the field lens (3), simultaneously images all pupils of the microlens array (2) onto the detector array (7).

16. (original) An arrangement as claimed in Claim 15, wherein the field lens (3) and a further lens (11) form a telescopic arrangement which illuminates the object array (1) with light from the light source (15).

17. (original) An arrangement as claimed in Claim 15, comprising a diaphragm (4a) disposed between the field lens (3) and the objective (6), wherein the beam splitter (8) is located between the diaphragm (4a) and the field lens (3).

18. (original) An arrangement as claimed in Claim 15, wherein the field lens (3) and the objective (6) effect telecentric imaging of the pupil plane of the microlens array (2) onto the detector array (7).

19. (original) An arrangement as claimed in Claim 17, wherein one or more reflecting elements (17, 18) for folding the beam path for illumination and/or detection are provided between the field lens (3) and the diaphragm.

20. (original) An arrangement as claimed in Claim 15, wherein the object array (1) is slideable, at least vertically to the axis of illumination.

21. (original) An arrangement as claimed in Claim 15, wherein the light source (15) is intermittently switchable and a detection synchronized to the illumination clock, preferably a deferred detection, is possible so as to allow a time-dependent fluorescence measurement.

22. (original) An arrangement as claimed in Claim 21, comprising a flash lamp as the light source (15).

23. (original) An arrangement as claimed in Claim 15, wherein the microlens array (2) can be swiveled out of the beam path for observing the entire object array (1) and/or is exchangeable for adjustment to different measuring applications.

24. (original) An arrangement as claimed in Claim 15, wherein the light source (15) can be switched off for luminescence detection and/or a coupling element (8) for coupling in the radiation of the light source (15) can be swiveled out.

25. (original) An arrangement as claimed in Claim 15, wherein a second detector array is disposed behind the object array (1) in the illumination direction for absorption measurement.

26. (original) Use of an arrangement as claimed in Claim 15 in a combined device for measuring at least one of the following phenomena on the object array (1); fluorescence, time-dependent fluorescence, luminescence, and absorption.

27. (original) The use of an arrangement as claimed in Claim 15 as a reader for microtiter plates.

28. (New) A method for the optical evaluation of an object array, the method comprising the steps of:

providing an object array for optical evaluation;

providing a detector array and a microlens array wherein said microlens array is disposed in front of said object array;

providing a field lens disposed in front of the object array;

generating an excitation light with an excitation light source which is coupled in by means of a beam splitter between a field lens and an objective lens; and

simultaneously imaging all pupils of the microlens array onto the detector array by means of said objective lens together with said field lens.